REMARKS

Claims 1-9, all the claims pending in the application, stand rejected. Claims 1, 6, and 9 are amended. Claims 2, 7, and 8 are cancelled. Thus, claims 1, 3-6 and 9 remain pending in the application.

Amended claim 1 is based on the original claims 1 and 2, on the description: "3: SOFT MAGNETIC LAYER" in Fig. 1 of the original application, and on the description of paragraph [0019], lines 1-3 (i.e. page 10, lines 1-5 from the bottom) of the original specification.

Amended claim 6 is based on the description: "3: SOFT MAGNETIC LAYER" in Fig. 1 of the original application and on the description of paragraph [0019], lines 1-3 (i.e. page 10, lines 1-5 from the bottom) of the original specification.

Claim Rejections - 35 USC § 102

Claims 1 and 5 are rejected as being anticipated by Kikitsu et al (2003/0017364). This rejection is traversed for at least the following reasons.

Claim 1

The invention as defined by independent claim 1 concerns a disk for perpendicular magnetic recording, having a substrate, a soft magnetic layer on the substrate, a ferromagnetic layer on the soft magnetic layer, and a stacked layer on the ferromagnetic layer. The claim specifies particular features of each layer that aid in achieving solutions to existing problems with conventional disks. In particular, as described in paragraph [0006]:

> "By adding an oxide such as SiO_2 to the CoPt-based perpendicular magnetic recording layer, the oxide such as SiO_2 is segregated at the grain boundaries to reduce the magnetic interaction between the crystal grains of the magnetic recording layer. Further, by the addition of the oxide such as SiO_2, the crystal grain size can be reduced. By increasing the amount of SiO_2 added to the magnetic recording layer, the S/N ratio in high density recording is improved."

Further, as described in paragraph [0007]:

> "However, when aiming at a medium adaptable to 400Gbit/inch^2 or more, it is difficult to produce the medium excellent in thermal stability or recording

properties only by adding the oxide such as SiO_2 or O. That is, when, for example, the amount of SiO_2 is increased to 6at% or more, degradation occurs in coercive force Hc. Due to such reduction in coercive force Hc, the thermal stability degrades and the DC noise increases. On the other hand, as the amount of SiO_2 increases, the SNR (SN Ratio) becomes better.

The invention has the structures of amended claims 1 and 6 to thereby increase the recording density by improving the S/N ratio in high density recording without causing an increase in DC noise and degradation in thermal stability (paragraph [0008] and paragraph [0024] of the original specification).

Kikitsu et al

The Examiner assert that Kikitsu et at. discloses a perpendicular in plane combination magnetic recording medium utilized on hard disk drives, with reference to paragraph 3 and 34, including a recording layer and a functional layer. The Examiner asserts that there is controlled crystal growth and (Paragraph 52) and a use of ferromagnetic material in the functional layer selected from a wider range than that of the recording layer (Paragraph 69). The Examiner asserts that various materials (alloys of Fe and Ni) alone or as additives are used to improve magnetic properties of silicon (Si), or the like. With regard to a layer containing Co, the Examiner observes that Kikitsu et at. materials mentioned above and other alloys, of rare earth materials and transition metals, such as Tb--Fe, Tb--Fe--Co, Tb--Co, Gd-Tb--Fe--Co, Nd--Fe--Co and Nd--Tb--Fe--Co, multi-layered films of magnetic layers and noble metal layers (such as Co. layer /Pt layer and Co layer/Pd layer) and magnetic oxides (Paragraph 68).

Notwithstanding this comparison, Applicants respectfully submit that Kikitsu et al does not meet the limitations of amended claim 1.

No Claimed Ferromagnetic Layer

Applicants respectfully submit that Kikitsu et al neither disclose nor suggest "a ferromagnetic layer having a granular structure and comprising crystal gains mainly made of cobalt (Co) and grain boundary portions mainly made of an oxide, silicon (Si), or an oxide of silicon (Si)," as set forth in amended claim 1.

No Claimed Soft Magnetic Layer

Applicants also respectfully submit that Kikitsu et al neither discloses nor suggests "a soft magnetic layer," as set forth in amended claims 1 and 6. According to the invention, the soft magnetic layer is provided on the substrate for suitably adjusting a magnetic circuit of the perpendicular magnetic recording layer (paragraph [0019], lines 1-3 (i.e. page 10, lines 1-5 from the bottom) of the original specification).

Claim 5

Claim is also patentable because it depends from the patentable claim 1.

Claim Rejections - 35 USC 103

Claims 2-4 and 6-[8] 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikitsu et al. `364. This rejection is traversed for at least the following reasons.

As to Claims 2, 7 and 8, the rejection is moot in view of the cancellation of these claims.

With regard to claims 3 and 4, these claims are patentable due to their dependency from claim 1.

With regard to claim 9, which was not mentioned in the statement of rejection but received comment in the discussion of the invention, the claim has been amended for consistency with parent claim 3.

Claim 6

With regard to method claim 6, the claim has been amended in a manner similar to that for claim 1, and the limitations regarding the formation of the magnetic recording layer include (1) the formation of a ferromagnetic layer and (20 the formation of a soft magnetic layer, which individually and in combination provide a distinction over Kikitsu et al.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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